

May 9, 1933.

A. W. TAYLOR

1,908,631

STERN WHEEL PROPELLER

Filed Nov. 29, 1932

2 Sheets-Sheet 1

FIG. 1.

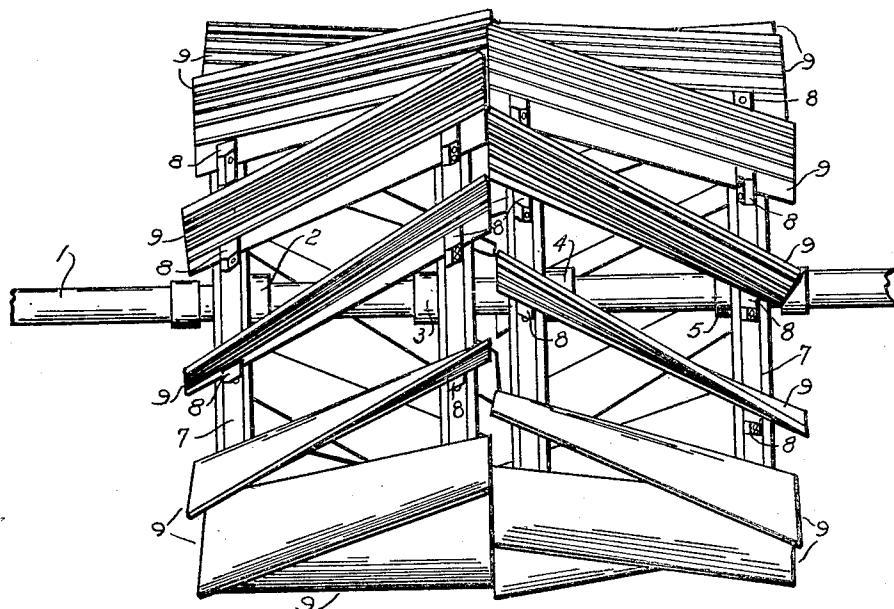
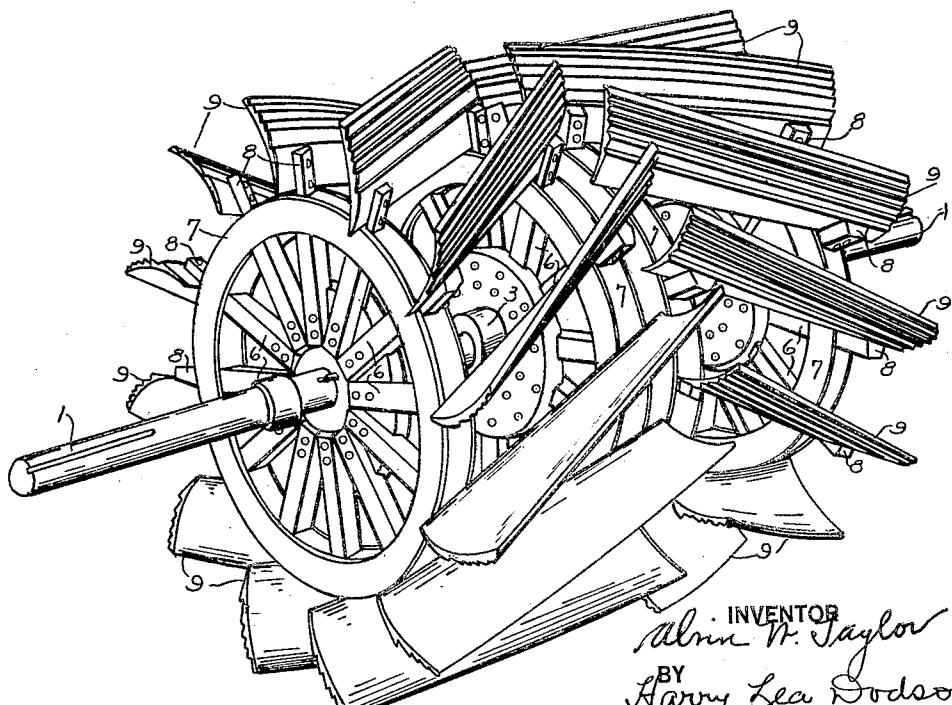


FIG. 2.



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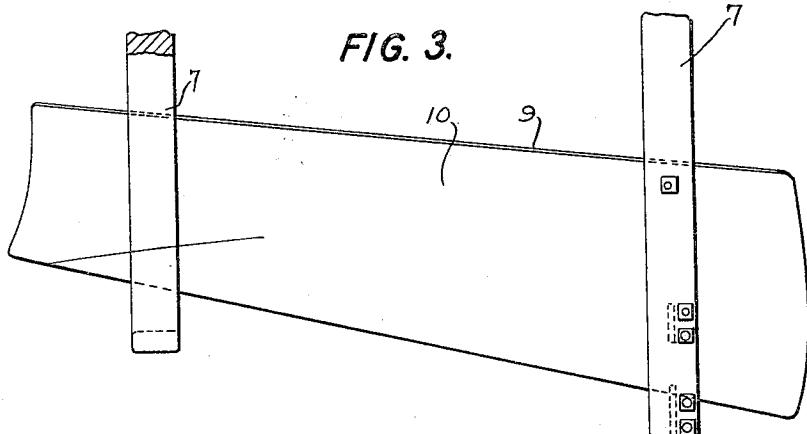


FIG. 3.

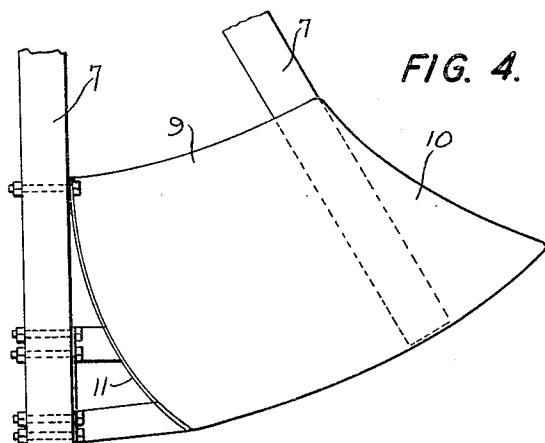


FIG. 4.

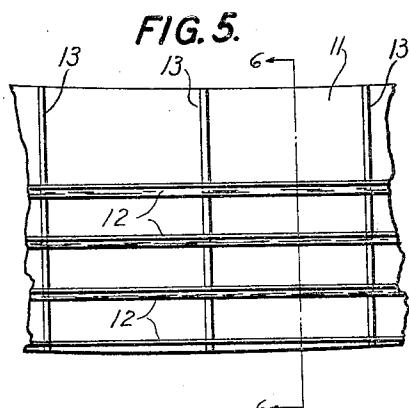


FIG. 5.

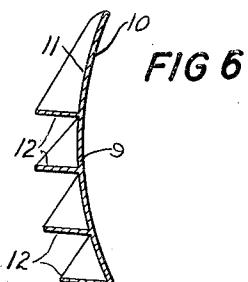


FIG. 6

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## UNITED STATES PATENT OFFICE

ALVIN W. TAYLOR, OF ATHENS, OHIO

## STERN WHEEL PROPELLER

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My invention relates to that type of propellers which are mounted at the rear of the vessel. It is well known that the standard type of wheel employed for this purpose not only causes considerable vibration due to the straight type of blade or bucket employed but that there is a very great tendency for them to cause the stern of the vessel to raise and lower. Another objection is that they throw the water over the wheel onto the vessel. In some of the Ohio River boats it is thrown up onto the roof of the cabins and provision has to be made for its disposal. Attempts have been made to overcome this feature by providing two wheels having the blades or buckets inclined at an angle to the wheel shaft; while this served to divert the water it did not prove satisfactory in practice, as it seemed to accentuate the other objectionable features.

My invention has for its object to provide a wheel which will have substantially the same effect upon the surface of the water as a screw propeller has under the water.

A further object of my invention is to provide blades or buckets which are concave and which have a plurality of ribs running longitudinally of the blades to increase the effectiveness of the wheel in backing.

A further object of my invention is to provide baffles on the rear of the blade which are at right angles to the blades which will act as reinforcing stays and will also retard the flow of the water when backing.

My means of accomplishing the foregoing objects may be more readily understood by having reference to the accompanying drawings which are hereunto annexed and are part of this specification, in which—

Fig. 1 is a rear view of an assembled wheel;  
Fig. 2 is a perspective view of the same;  
Fig. 3 is a side view of a blade;  
Fig. 4 is an end view of the blade as shown

in Fig. 2;  
Fig. 5 is a fragmentary view of a portion of a blade viewed from the rear; and

Fig. 6 is a section taken on the line 6—6 in Fig. 5.

Similar reference numerals refer to similar

parts throughout the entire description and drawings.

As shown in the drawings, the wheel is mounted on a shaft 1 which may be mounted on the vessel (not shown) in any of the accepted ways for mounting stern wheel propellers. The shaft has four hubs 2, 3, 4 and 5 suitably secured thereto by keys or in any desired way. A plurality of spokes 6 extend radially from the hubs and a felly 7 joins the spokes 6. Ends 8 of the spokes 6 project through the felly 7 and provide supports for the blades 9. It will be obvious however, that other forms of mounting for the blades may be used without departing from my invention. There are two sets of the blades 9 which are constructed as clearly seen from the drawings with a concave face 10. The curvature of this face is determined or governed by the radius of the wheel and should be such as will permit a straight entrance of the edge of the blade 9 into the water. The blades are preferably mounted at an angle of 30 degrees from the axle, each set converging toward the center. I have found in practice that this inclination of the blades will deliver the water carried over by them to port and starboard and none will be carried over while the vessel is moving forward. On the rear surface 11 I mount or cast a plurality of ribs 12 which extend longitudinally of the blades to increase the power of the wheel when the vessel is being backed. As shown in Fig. 5 a number of baffles 13 are welded or riveted across the ribs 12 at right angles to the blades 9. These baffles serve as stays or reinforcements for the blades and also act to retard the flow of water toward the center of the wheel. The baffles may, if desired, be omitted. I have found in practice that by means of this construction of the blades I can cause the blades 9 to enter the water practically without disturbing it or setting it in motion and that they are at work to propel the vessel forward immediately upon their entrance into the water instead of tending to lift the stern of the vessel.

Having described my invention what I regard as new and desire to secure by Letters Patent is:

1. The combination with a stern wheel of a plurality of blades thereon, the faces of which blades are curved so as to present the edge of each blade to the water as the wheel is rotated, a plurality of longitudinal ribs on the rear surface of the blades.
2. The combination with a stern wheel of two sets of blades thereon, each of which with its blades at an angle of approximately 10 30 degrees from the axle, the faces of which blades are curved so as to present the edge of each blade to the water as the wheel is rotated, a plurality of longitudinal ribs on the rear surface of the blades.
3. The combination with a stern wheel of a plurality of blades thereon, the faces of which blades are curved so as to present the edge of each blade to the water as the wheel is rotated, a plurality of longitudinal ribs on 20 the rear surface of the blades, a plurality of baffles on said ribs at right angles to said blades.
4. The combination with a stern wheel of two sets of blades thereon, each of which 25 with its blades at an angle of approximately 30 degrees from the axle, the faces of which blades are curved so as to present the edge of each blade to the water as the wheel is rotated, a plurality of longitudinal ribs on the 30 rear surface of the blades, and a plurality of baffles on said ribs at right angles to said blades.

ALVIN W. TAYLOR.

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